

## REMARKS

Claims 11-20 are pending in the application and stand rejected in the non-final Office Action. With this reply, new claims 21 through 28 are added. Upon entry of the amendments claims 11-28 remain pending.

Support for the new claims is found in the specification, for example, in Figure 6. Applicants respectfully request entry of the amendments.

## TELEPHONE INTERVIEW WITH EXAMINER MITCHELL

Applicants would like to thank Examiner Mitchell for the many courtesies extended to Applicant's representative in a telephonic interview on August 3, 2006. The interview was in response to Applicants request in the RCE for a telephone interview prior to an action on the merits. The Examiner granted the request and discussed the current rejections in the August 3 interview. It was agreed that Applicants would address the holding of obviousness with a Declaration by one of the inventors, Mr. Lutkus. Pursuant to this agreement, Applicants sent in a communication on August 7, 2006, which is part of the file history. Unfortunately, the communication did not arrive in time to meet the deadline for action imposed upon by the Examiner by Office rules. Accordingly, while the Declaration is of record, it was not considered in preparing the non-final Rejection.

## REPLACEMENT FIGURES

The Figures are objected to because they do not show the feature of a tangless insert recited for example in claims 19 and 20. Applicants submit herewith a replacement sheet containing Figures 1, 2, and 6. The tang has been removed from Figure 1, showing

a tangless insert. No new matter is added by the amendments to the Figures. At paragraph 24, the amended specification states:

"At least one of the ends may be provided with a selectively removable driving tang for assistance in the installation of the insert within a tapped hole."

The removal of the tang in Figure 1 is clearly supported in the specification that states one of the ends may be provided with a driving tang. As should be further be appreciated by those skilled in the art, tanged inserts become tangless after installation in a tapped hole by breaking off the tang.

On the basis of the above discussion, Applicants respectfully request entry of the amended figures and removal of the objection to the figures.

#### AMENDMENTS TO THE SPECIFICATION

Applicants submit herewith amendments to paragraphs [0002], [0024], [0029], and [0030] to correct minor typographical errors. No new matter is added. Applicants respectfully request entry of the amendments.

#### REJECTION UNDER 35 U.S.C. § 103

Claims 11-20 stand rejected under 35 U.S.C. § 103(a) as being obvious over the Lutkus reference in view of the Whitford Paper. The Lutkus reference discloses fastener assemblies that have a fluoropolymer coating but not a chromate free fluoropolymer coating as currently claimed. According to the Office Action, the Whitford Paper teaches the desirability of a chromate-free coating. The Examiner takes the position that there is motivation to combine the Lutkus reference and the Whitford Paper to arrive at fastener assemblies containing a chromate-free fluoropolymer coating. The

Examiner states the motivation is to comply with production and environmental requirements. The Office Action then states that once one is motivated to combine the references, one would then inherently realize improve performance, since identical structures perform identically. Thus, a *prima facie* case of obviousness is established and claims are rejected. With this reply, Applicants offer objective evidence of secondary factors in order to rebut the *prima facie* case of obviousness. Accordingly, Applicants respectfully traverse the rejection and request reconsideration.

At the outset, it is noted that the current invention represents an improvement on the Applicants' own work as disclosed in the Lutkus reference. The improvement is based in part on the discovery that fastener assemblies containing the claimed fluoropolymer coating without chromate have surprisingly better properties than prior art chromate containing coatings. To describe the invention, Applicant includes a description of various drawbacks found in the prior art fastener assemblies. For instance, at paragraph 6, Applicant states:

"For example, tangless helically coiled fastener inserts coated with fluoropolymer compositions including chromates have been found to move incidentally within a tapped hole during prevailing torque testing. Further, the texture of the chromate inclusive fluoropolymer composition has been found to interfere with the proper function of such tangless inserts. That is, fastener inserts coated with chromate inclusive fluoropolymers periodically bridge across adjacent coils interfering with the installation of fasteners."

Later, Applicant describes the benefits obtained with his invention, for example at paragraph 27:

"In addition to various functional improvements, such as reducing movement of the fastener insert within a fastener assembly, the chromate free fluoropolymer coated inserts no longer present problems associated with chromate disposal and degradation."

The unexpected benefits of the invention are further described at paragraph 29:

"Interestingly, the chromate free fluoropolymer coated fastener inserts of the present invention appear to have a smoother finish than those coated with the chromate inclusive compositions. Despite the smoother finish, the chromate free fluoropolymer coated fastener inserts perform better than fastener inserts coated with chromate inclusive fluoropolymer compositions during prevailing torque tests conducted using tangless inserts. This is unexpected and that a smoother finish would normally dictate a propensity for movement of a fastener insert within a tapped hole wherein all operating parameters are the same, which was not the case."

In earlier prosecution, Applicants have amended their claims to recite the unexpected benefit of their invention, that being that compared to fastener inserts with a chromium containing fluoropolymer composition, inserts of the current invention perform "better" in a prevailing torque test. In order to advance prosecution, Applicants offer the enclosed Declaration under 37 CFR § 1.132 of Mr. William Lutkus, one of the inventors. Applicants respectfully request that the evidence submitted therein of unexpected results be considered in order to overturn the *prima facie* case of obviousness established by combination of the Lutkus reference with the Whitford Paper.

**DECLARATION UNDER 37 CFR § 1.132 OF WILLIAM J. LUTKUS**

First, Mr. Lutkus establishes that workers in the field are very cognizant of the distinction between tanged and tangless inserts. He offers Figures 2, 3, and 4 from a representative patent to illustrate the inserts. He explains that the tang is used to install the insert into a tapped hole and is broken off using another tool after the insert is installed.

In sections 4 and 5, Mr. Lutkus explains that tangless inserts are also well-known and are described for example in National Aerospace NAS 1130, attached as Exhibit A. Mr. Lutkus explains that a standard test to measure the performance of self-locking

(tangless) inserts is the helically coiled standard P-3. Mr. Lutkus explains that this is the well-known "prevailing torque test".

In section 6, Mr. Lutkus explains how successful performance in the prevailing torque test is assessed. He explains that sometimes the difference in performance between tangless and tanged inserts as well as with chromate versus chromate-free inserts can be subtle, but that those in the field recognize that even small differences can be significant. He goes on to explain various details allowing one to understand how coating a tangless insert with a fluoropolymer might create problems with installation and possibly movement. Continuing in section 6 on page 4, Mr. Lutkus points out that the inventors noticed higher torque readings, especially on the first and second cycle when testing tanged inserts. Then he explains that when the new chromate-free coating was discovered they were surprised to find that initial torque readings were not as high as with the chromate containing coating. Then, in the second paragraph on page 5 he explains how the inventors were led to experiment again with tangless inserts.

In section 7 of the Declaration, Mr. Lutkus explains how the discoveries regarding improvements in chromate free fluoropolymer fastener inserts are described in the current specification. In section 8, Mr. Lutkus presents data showing an improvement with tanged inserts using the chromate-free coatings of the current invention. His conclusions are described in sections 8, 9, and 10 of the Declaration.

In sections 11 and 12, Mr. Lutkus describes results obtained in the prevailing torque test when the test is carried out on tangless inserts. He concludes in section 12 that inserts coated with the chromate-free coatings, such as claimed in the current application exhibit a surprising improvement over inserts coated with chromate containing coating. He

observes the improvement is somewhat more noticeable than when the test is run on tanged inserts.

On the basis of the Declaration and the prior prosecution, Applicants respectfully submit that they have successfully rebutted the prima facie case of obviousness set forth in the Office Action by a showing of unexpected results commensurate in scope with the claims. Accordingly, Applicants respectfully request that the rejection be withdrawn and the case moved to a condition of allowance.

**CONCLUSION**

On the basis of the above discussion, Applicants believe that claims 11-22 are in an allowable condition and respectfully request further and favorable consideration. The Examiner is invited to telephone the undersigned if that would be helpful to resolving any issues.

Respectfully submitted,

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By: *Robert M. Siminski*

Robert M. Siminski  
Reg. No. 36,007  
Mark A. Frentrup  
Reg. No. 41,026  
Attorneys for Applicant

HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. Box 828  
Bloomfield Hills, Michigan 48303  
(248) 641-1600

RMS/MAF/dl/cg